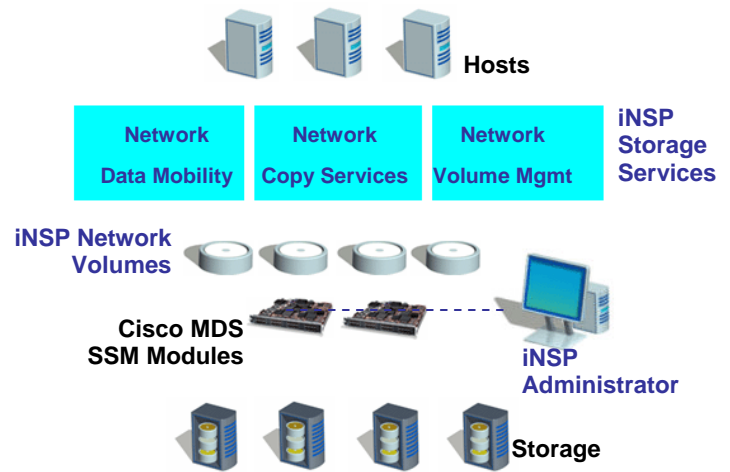


## Incipient Network Storage Platform™ Software for Cisco® MDS 9000 SAN Switches

### Storage Virtualization Software Provides Storage Services for SANs

Incipient Network Storage Platform (iNSP) is storage virtualization software that provides a suite of storage services for large enterprise SAN environments. It leverages Cisco's industry leading MDS 9000 SAN switches and includes storage-related services such as non-disruptive data migration, automated storage provisioning and point-in-time copy services.

iNSP software runs natively on the Cisco MDS 9000 Storage Services Modules (SSMs) that are designed to work with intelligent fabric applications. iNSP does not require any external appliances or servers and works with any Cisco MDS 9500 Director or 9200 fabric switch. This provides investment protection for Cisco MDS customers as well as rapid access to storage services based applications.



**iNSP software resides on Cisco MDS Storage Services Modules (SSMs) housed within a Cisco MDS Chassis**

### Storage as a Service (STaaS)

The combination of iNSP software with Cisco MDS 9000 SAN switches allows organizations to set up their infrastructure to offer Storage as a Service™ (STaaS) from their SAN. This approach centralizes and consolidates storage management operations and provides a common platform for online non-disruptive storage and storage services delivery. A single instance of iNSP software can serve multiple business units and departments. The result is a cost-efficient infrastructure that can respond more rapidly to the company's information growth and management.

### iNSP Software Highlights

- Online non-disruptive data migration; zero downtime for hosts and applications during migration
- Migration use cases: application storage growth, array decommissioning, resource contention
- Automated online non-disruptive storage provisioning between multi-vendor storage arrays and dissimilar configurations
- Fabric-based volume manager, host independent
- Heterogeneous point-in-time copy services

### iNSP Storage Services for SANs

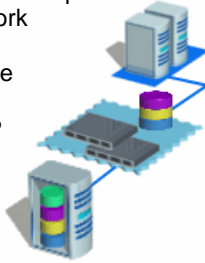
- **Network Data Mobility**  
Online non-disruptive data migration services without any scheduled host or application downtime. Supports multi-vendor heterogeneous storage arrays.
- **Network Volume Management**  
Automated online non-disruptive storage provisioning for heterogeneous, multi-frame, tiered storage environments with a single point of management.
- **Network Copy Services**  
Point-in-time copy services with automated provisioning for heterogeneous, tiered storage environments. Consolidates cross-array copy services to a single platform.



## Solution Highlights

### iNSP Network Volume Management

iNSP provides network-based volume management services independent of host software or storage array controllers. It is the foundation on which all Incipient network storage services are built. Network volume management allows the configuration of the physical storage to be changed without impacting any host or application. Users can provision an iNSP network volume to a host once, then grow, transform, migrate and copy volumes without any host reconfiguration. Storage resources (array volumes) used in automated provisioning operations are allocated based on policies and industry best practice guidelines created by the storage administrator and embedded in the iNSP provisioning engine. SAN changes become simple and straightforward.



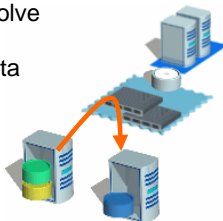
### Centralized Volume Management and Automated Provisioning

- “Provision-once” volume allocation:
  - Grow, transform, migrate and copy non-disruptively
- Common pool of heterogeneous storage resources:
  - Organize by customer, application, or QoS
  - Reduce stranded capacity and increase storage utilization rates
- Automated, policy-based storage provisioning:
  - Increase management efficiencies

### iNSP Network Data Mobility

With iNSP Network Data Mobility, data located on any iNSP network volume can be moved transparently from its current physical storage without disruption to applications and without system downtime. Data can be moved between different storage configurations and multiple vendor arrays.

Network Data Mobility can be used to facilitate array/server decommissioning, to resolve resource contention, or to transform volume layout. This non-disruptive data migration capability allows you to dynamically change your storage’s physical allocations without impacting the application using the data. Multi-vendor migration also allows effective and efficient implementation of Information Lifecycle Management (ILM) strategies and tiered storage.



### Data Mobility for Heterogeneous Storage Environments

- Migrate volumes while data is “live”; non-disruptive to hosts and applications
- Simplify and automate the volume migration process:
  - Decrease time required for planning
  - Reduce application downtime (planned and unplanned)
  - Reduce staff hours spent on routine operations
- Facilitate the following data migration scenarios:
  - Storage array commissioning, decommissioning
  - Application load balancing to improve performance
  - Permits incremental or gradual migrations, allowing appraisals of the performance impact of the migration, with the ability to restore to the original location
- No reconfiguration of hosts required, no load placed on servers

### iNSP Network Copy Services

iNSP creates local point-in-time copies or clones of an iNSP network volume. Copies can be split off and accessed independently for use in business continuance operations, data distribution for application development, or for data analysis. iNSP consistency groups assure data integrity for databases or applications that span multiple volumes.

iNSP allows data to be copied between storage arrays from different storage vendors. The iNSP multi-vendor copy capabilities provide the user with the flexibility to use lower cost storage as copies for their high-end production data.

### Point-in-Time Copies of Data (Snapshots) for Backup Staging, Rapid Recovery, Testing and Batch Processing

- Heterogeneous, cross array copy services:
  - Leverage low-cost storage for snapshots of Tier-1 production data
  - Consolidation of array based services with common management
  - Wizards to automatically configure, provision, and copy data
  - Automated resource selection based on deep discovery and user defined policies

## iNSP: Infrastructure for STaaS

Companies can leverage a STaaS infrastructure to not only deliver actual storage to business units and departments, but deliver an integrated set of storage services too. A single instance of the iNSP delivers storage services SAN wide supporting all its customers. The iNSP Administrator offers wizards for iNSP network volume configuration, data migration and copy management services.

The implementation of these storage services are simplified with a comprehensive set of discovery, policy, and automation utilities. iNSP Deep Discovery provides all the information needed to enable the implementation of intelligent, automated, policy-based provisioning processes. These enhanced management capabilities complement the benefits of virtualization in a SAN and reduce the deployment barriers of this new technology.

## iNSP Software Suite Modules

Component	Description
Incipient NSP	<ul style="list-style-type: none"> <li>▪ Network Volume Management</li> <li>▪ Network Data Mobility</li> <li>▪ Incipient NSP Administrator                             <ul style="list-style-type: none"> <li>○ Deep Discovery</li> <li>○ Automated, policy based provisioning</li> </ul> </li> </ul>
Incipient NSP NCS (Add-On)	<ul style="list-style-type: none"> <li>▪ Network Copy Services, Full-volume, point-in-time copies</li> </ul>

## iNSP Host and Platform Support

Hosts	Switch Platforms	Storage Platforms
Windows (Microsoft) UNIX (IBM AIX, Sun Solaris) Linux (Red Hat, SUSE)	Cisco MDS 9000 SAN switches  Mixed Cisco, Brocade, McData SAN fabrics	- 3PAR InServ - EMC Clariion, Symmetrix - Engenio 2800/4800/5800 - HDS 9900 - HP EVA 3/5/8000 - IBM DS4000, DS6000, DS8000 - IBM ESS - STK Flexline 200/300



**Network Storage Platform**

### To learn more about iNSP, contact us today

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